

**Notice of Allowability**

Application No.

10/050,207

Examiner

Yubin Hung

Applicant(s)

BERNSTEIN ET AL.

Art Unit

2625

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☐ This communication is responsive to \_\_\_\_\_.
2. ☒ The allowed claim(s) is/are 1-14.
3. ☒ The drawings filed on January 16, 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date 01/16/02
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_.

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-14 are allowed.
2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, and similarly claims 2-4, 13 and 14, closest art of record teaches detecting streak pixels (e.g., pixels on black lines) caused by a spot of dirt attached to a scanning window by counting the consecutive black pixels output from each sensor element and correcting a streak pixel basing on the its neighbors [Stevenson et al. (US 6,393,161): Figs. 2-4]; using the exclusive-OR (XOR) operation to detect (inherent in the operation) and remove pixels corresponding to a dirt spot etched on the document platen of a scanning system [Denber (US 5,214,470): Fig. 2]; using a non-linear operator to detect line scratches and a line scratch pixel's neighbors for its removal [Kim et al., "Nonlinear Operators for Edge Detection and Line Scratch Removal," Conf. on Systems, Man and Cybernetics, V. 5, 11-14 Oct. 1998, pp. 4401-4404: Sects. 2 & 3]. However, none teach selectively outputting pixel values from either one of two binarized images depending on whether the pixel being processed is determined to be on a vertical black line or not.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion and Contact Information***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Tatsuta (US 5,668,898) – discloses line detection using difference masks
- Fast et al. (US 5,579,414) – discloses vertical line detection using run-length code
- Handley (US 6,023,534) – discloses box removal using the XOR operation
- Suganuma (US 6,034,794) – discloses selective output based on some decision logic
- Morris et al., "A Sampling Based Approach to Line Scratch Removal from Motion Picture Frames," Proc. Of the Int'l Conf. on Image Processing, Vol. 1, 16-19 Sep. 1996, pp. 801-804
- Joyeux et al., "Film Line Scratch Removal Using Kalman Filtering and Bayesian Restoration," 5<sup>th</sup> IEEE Workshop on Applications of Computer Vision, 4-6 Dec. 2000, pp. 8-13


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4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yubin Hung whose telephone number is (703) 305-1896. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Yubin Hung  
Patent Examiner  
November 17, 2004

  
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TECHNOLOGY CENTER 2600